

*If you are using a printed copy of this procedure, and not the on-screen version, then you **MUST** make sure the dates at the bottom of the printed copy and the on-screen version match.*

The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.

Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

4.56.ar RHIC 8z1 Sweep Checklist

Text Pages 1 through 6

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Approved by: _____ **Signature on File** _____
Collider-Accelerator Department Chairman Date

P. Ingrassia

CA-OPM-ATT 4.56.ar RHIC Zone 8z1 Sweep Checklist

-- **TEAM A**

Team Leader (TLA) _____ Sweeper#2 (S2) _____

Sweeper#3 (S3) _____

Time: _____ Date: _____

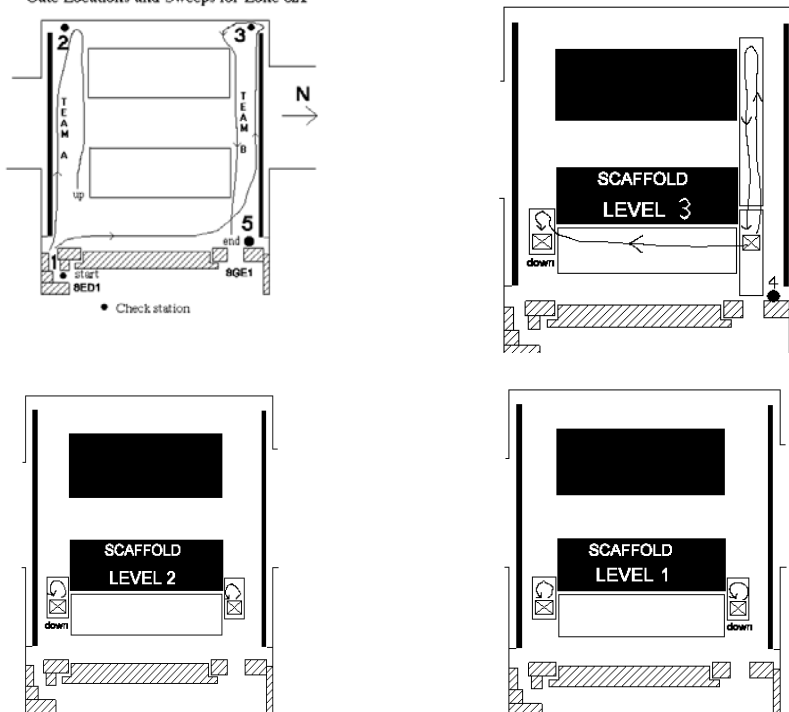
Note:

IF any workers are encountered during the sweep, **THEN** contact the OC to see if the sweep should be aborted. Workers shall leave the enclosure **WITH** the sweep team. **IF** the workers crash out of the enclosure **AND** do not exit with the sweep team, **THEN** the sweep shall be re-started.

Prerequisites

- Three persons to perform the sweep, one person may be supplied by the Phenix collaboration
- Phenix 8z1 Sweep Checklist (TEAM A) (two pages/ three sides)
- Zones 7z1 and 8z2 should be searched and secured first
- Required Tools: at least three flashlights
- Walkie-talkies (one each for TL), and TLDs (one for each C-AD staff member)
- All Doors closed THEN 8z1 set to Controlled Access
- The “window washer” platform (west wall) must be in the up or down position
- Keys: One Sweep Reset key S/R015 (Team Leader), and two Controlled Access keys CA014 (S2+S3)
- Lock, & Red Tag for Muon Steel South East third level Ladder barricade
- TLA MUST be someone who will readily climb the ladders and walk the upper platforms

Gate Locations and Sweeps for Zone 8z1



CONTINUED ON REVERSE SIDE

Note 1:

Before beginning the sweep:

- Contact the experiment shift leader to tell them a sweep will be performed.
- Ask the experiment to turn off their magnet(s)
- IF magnet(s) cannot be turned off THEN carry no ferrous objects while sweeping near the magnet(s) and obey postings and fencing to stay away from fields greater than 500 gauss.

Note 2:

The shield block wall must be completed and inserted before the sweep may begin.

Note 3:

If the window washer on the west wall is in the middle position, THEN TLA contacts the experiment shift leader to move it UP or DOWN – NO LOTO is required

Note 4:

IF EITHER THE EAST OR WEST CARRIAGE, OR BOTH CARRIAGES ARE NOT FULLY INSERTED THEN THE SWEEP TEAMS MUST SWEEP THE INTERIOR “GROUND LEVEL” PORTION OF THE DETECTOR.

Check

- ___ 1 TLA contacts Phenix Shift Leader (person in charge) and gets two Phenix staff members to assist in the sweep. (a total of six Operations group members may be used instead)
- ___ 2 TLA instructs the two Phenix staff members that their role is:
 - To stand static watch as assigned (**S3** position in the SE corner of the hall), and
 - To challenge any person, other than the 4 sweep team members, to come to their position and await to be escorted out of the hall.
 - TLA gives each Phenix staff member a CA key and a flashlight.
- ___ 3 Sweep team goes to 8GE1 (inner chain link fence gate) in the Phenix experimental hall building and TL asks MCR for simultaneous release
- ___ 4 TLA opens 8GE1 gate by turning the CA014 key in the Controlled Access key-switch AT THE INNER CHAIN LINK FENCE GATE while operator in MCR presses simultaneous release for 8GE1.
- ___ 5 Sweep Team passes through 8GE1.
- ___ 6 Sweep Team splits up – Team A to the South, Team B to the North
- ___ 8 TLA and S2 and S3 walk to mouth of labyrinth for gate 8ED1.
- ___ 9 TLA instructs S3 to stand static watch at the mouth of the labyrinth for gate 8ED1.
- ___ 10 TLA walks through “parafin door” to gate 8ED1.
- ___ 11 TLA resets gate 8ED1 by turning the S/R015 key in the RESET keyswitch next to the gate.
- ___ 12 TLA observes the gate reset lamp lights.
- ___ 13 TLA STARTS SWEEP by turning the S/R015 key CW in the SWEEP key-switch on 8XCS1 next to 8ED1 gate. (The PASS box in step 11 contains both SWEEP and RESET keyswitches).
- ___ 14 TLA observes AREA SECURED lamp blink once.
- ___ 15 TLA sweeps up the labyrinth and joins S2 & S3.
- ___ 16 TLA instructs S2 to go to the muon steel panels in the SE corner of the hall. TLA walks to the southwest side of the experimental hall while S3 remains static in SE corner.
- ___ 17 TLA goes to the SW corner of the hall and shines the flashlight in between each muon steel panel to search for personnel. TL instructs S2 to do the same flashlight search between the steel panels.
- ___ 18 TLA instructs S2 to search SE corner tower ladder and the floors above .
- ___ 19 S2 looks to see if the barricade is in place on the top floor to block access to the top of the muon steel.

CONTINUED ON NEXT SHEET

- ___ 20 IF the barricade is not in place, THEN S2 climbs the ladder, searches the top of the south muon steel, installs and locks the barricade in place, then returns to ground level
- ___ 21 TLA instructs S2 to walk to map position 2 in the SW corner of the hall and to stand static watch.
- ___ 22 TLA searches the tower ladder in the SW corner of the hall and searches the top decks for personnel..
- ___ 23 TLA searches area behind the detector along the west wall (window washer must be UP or DOWN position).
- ___ 24 TLA searches exhaust/supply fan vent port in the southwest of the hall and verifies the vent barrier is secured.
- ___ 25 TLA sets second check station by turning S/R015 key CW in the SWEEP key-switch on 8XCS2 in SW corner of Phenix hall.
- ___ 26 TLA observes AREA SECURED lamp blink once.
- ___ 27 **TLA SHOUTS to TLB that check station TWO is reset and that check station THREE may be reset**
- ___ 28 TLA searches the yellow tower ladder on the west side of the south muon steel.
- ___ 29 TLA sweeps east, looking under the floor grating. **IF the East or West carriage is withdrawn, THEN he/she enters the detector to search for personnel**
- ___ 30 TLA sweeps to NE corner at 8GE1 and joins TLB.
- ___ 31 TLA AND TLB climb the scaffold to the third level
- ___ 32 TLA stands static watch while TLB walks west on the platform that runs parallel to the north muon steel
- ___ 33 TLA sweeps south along the THIRD floor catwalk AFTER TLB returns to the ladder.
- ___ 34 TLA sweeps the south end of the platform, while TLB does the same at the north end.
- ___ 35 TLA and TLB go down to level TWO on their respective ladders.
- ___ 36 TLA sweeps the south end of the platform, while TLB does the same at the north end.
- ___ 37 TLA and TLB go down to level ONE on their respective ladders.
- ___ 38 TLA calls to TEAM A (S2 & S3) and tells them to sweep 8GE1. Team A meets Team B at the gate
- ___ 39 TLA ENDS SWEEP at fifth check station (8XCS5) by turning S/R015 key in the SWEEP keyswitch on the box inside the gate
- ___ 40 TLA observes AREA SECURED lamp remains lit.
- ___ 41 TLA calls MCR for simultaneous release at 8GE1 (inner chain link gate).
- ___ 42 Sweep Team sweeps out 8GE1.
- ___ 43 TLA closes the 8GE1 plug door by doing the following:
 - ___ set plug drive motor energy disconnect switch to the ON position
 - ___ insert and turn the S/R015 key in the drive motor enable keyswitch (RHIC Safety Systems 8GE1 Plug Door Lockout)
 - ___ PRESS AND HOLD the close pushbutton
 - ___ IF the door does not move THEN pull the red crash button on the detector side of the plug door.
- ___ 44 WHEN the plug is closed, TL resets the 8GE1 gate by turning the S/R015 key in the RESET keyswitch.
- ___ 45 TLA observes Gate Reset lamp light
- ___ 46 TLA contacts MCR to verify 8z1 sweep is good and gates (8GE1 and 8ED1) are reset

Note:

If Area Secured Lamp Is Not Lit Then contact MCR to verify if sweep is good

- ___ 47 TLA collects CA keys and flashlights from Phenix staff members and sends them on their way
- ___ 48 After returning to MCR and verifying that all checklist information is filled out completely, TLA files the TEAM A and TEAM B checklists in FYxx Sweep Log binder.

Team Leader (TLB) _____ Sweeper#2 (S2) _____

Sweeper#3 (S3) _____

Time: _____ Date: _____

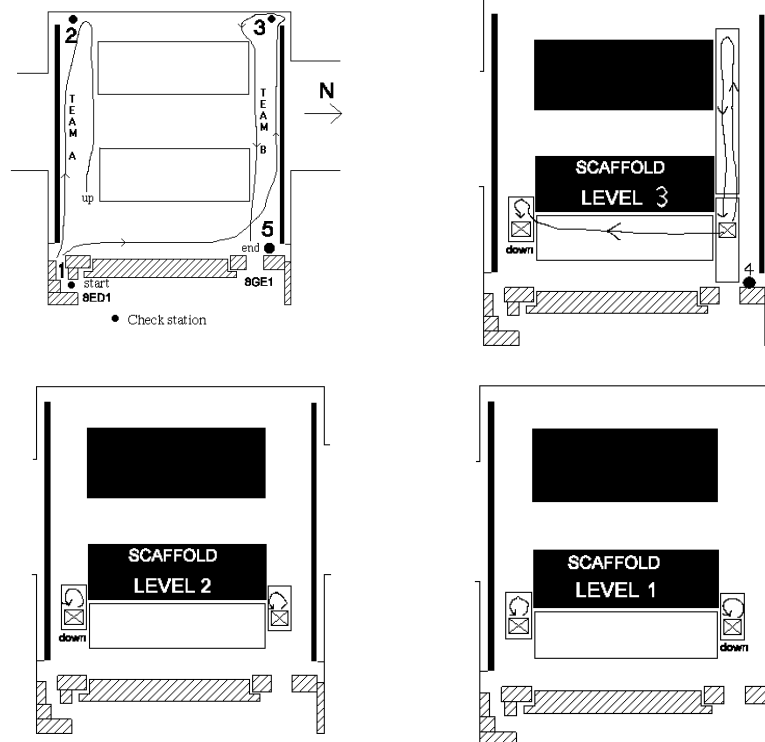
Note:

IF any workers are encountered during the sweep, **THEN** contact the OC to see if the sweep should be aborted. Workers shall leave the enclosure **WITH** the sweep team. **IF** the workers crash out of the enclosure **AND** do not exit with the sweep team, **THEN** the sweep shall be re-started.

Prerequisites

- Three persons to perform the sweep, one person may be supplied by the Phenix collaboration
- Phenix 8z1 Sweep Checklist (TEAM B) (one page/two sides)
- Zones 7z1 and 8z2 should be searched and secured first
- Required Tools: at least two flashlights
- Walkie-talkies (one each for TL) and TLDs (one for each C-AD staff member)
- All Doors closed THEN 8z1 set to Controlled Access
- The “window washer” platform (west wall) must be in the up or down position
- Keys: One Sweep Reset key S/R015 (Team Leader), and Two Controlled Access keys CA014 (S2 +S3)
- Lock, & Red Tag for Muon Steel North East third level Ladder barricade
- TLB MUST be someone who will readily climb the ladders and walk the upper platforms

Gate Locations and Sweeps for Zone 8z1

**CONTINUED ON REVERSE SIDE**

Note 1:

IF EITHER THE EAST OR WEST CARRIAGE, OR BOTH CARRIAGES ARE NOT FULLY INSERTED THEN THE SWEEP TEAMS MUST SWEEP THE INTERIOR “GROUND LEVEL” PORTION OF THE DETECTOR.

Note 2:

TLB MUST NOT reset check station THREE until he/she hears it is ok to do so from TLA

Check

- ___ 1 Team B enters 8z1 through 8GE1 along with Team A
- ___ 2 Sweep teams split up, Team A to the South, Team B to the North
- ___ 3 TLB instructs S3 to stand static watch "at ground level" inside 8GE1 (map position 5).
- ___ 4 TLB instructs S2 to walk to the NE corner of the hall to search between steel panels
- ___ 5 TLB walks to NW corner (map position 3) of the enclosure.
- ___ 6 TLB shines the flashlight between each muon steel panel to search for personnel.
TLB instructs S2 to do the same flashlight search between the steel panels.
- ___ 7 S2 looks up the NE ladder to search for personnel on the floors above.
- ___ 8 S2 looks to see if the barricade is locked in place on the third floor to block access to the top of the muon steel
- ___ 9 IF the barricade is not in place THEN S2 climbs the ladder, searches the top of the north muon steel, installs
and locks the barricade in place, then returns to ground level.
- ___ 10 TLB calls S2 to come to the NW corner of the enclosure.
- ___ 11 S2 stands static watch in the NW corner.
- ___ 12 TLB searches the back of the detector along the west wall of the enclosure.
- ___ 13 TLB makes sure “window washer scaffold” is in the up or down position.
- ___ 14 TLB makes sure electrical power to “window washer scaffold” is turned off
- ___ 15 TLB looks up tower ladder in NW corner of enclosure to search the floors next to north
muon steel panels
- ___ 16 TLB resets check station 3 after hearing form TLA that check station 2 was reset.
- ___ 17 TLB sets third check station by turning the S/R015 key CW in the SWEEP key-switch on
8XCS3 in the NW corner of the Phenix hall.
- ___ 18 TLB observes AREA SECURED lamp blink once.
- ___ 19 TLB sweeps to NE corner of the enclosure – **IF the East or West carriage is withdrawn,
THEN he/she enters the detector to search for personnel**
- ___ 20 TLB sweeps to NE corner and joins TLA.
- ___ 21 TLA and TLB climb the ladder in the NW corner to level three.
- ___ 22 TLB walks west on the catwalk that is parallel to the north muon steel while TLA stands static watch
- ___ 23 TLB searches then entire enclosure from the catwalk then sweeps back and joins TLA.
- ___ 24 TLB resets check station 4 (8xCS4) while TLA sweeps south on the third level catwalk along the east wall.
- ___ 25 TLB sets fourth check station by turning the S/R015 key CW in the SWEEP key-switch on 8XCS4
on the east wall above 8GE1.
- ___ 26 TLB observes AREA SECURED lamp blink once
- ___ 27 TLB sweeps the north end of the platform, while TLA does the same at the south end.
- ___ 28 TLB and TLA go down to level TWO on their respective ladders.
- ___ 29 TLB sweeps the north end of the platform, while TLA does the same at the south end.
- ___ 30 TLB and TLA go down to level ONE on their respective ladders.
- ___ 31 TLB sweeps to 8GE1 and calls S2 to join him/her and S3 at 8GE1.
- ___ 32 Team B awaits Team A so that all will exit together.